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We believe you should focus on the following issues related to our Display Ads business.

- The trajectory and medium term attractiveness of our display/ad tech business. Last year's operating profit was ~$1B but given COVID, we expect this year to break even.
- These aggregate figures hide the complexity of what is in fact multiple different (and often interconnected) components with different economics, revenue runway exposure to external shocks, and degree of interplay with O&O properties
- Given the decelerating revenue trend and expected impact from policy changes, our current *hypothesis* is that the value creation upside from important parts of the display business is limited; we are still doing the analysis to validate the hypothesis. If it is correct, then we must develop alternatives of how to evolve (different parts of) the business. Having a list of specific alternatives and a view of their relative attractiveness is essential if we aspire to effectively influence policy
- We think the key metric to watch is net revenue growth and operating income for each of the different components of the business.

OVERALL ADS P&L
Below is a view of different components of the Ads business.

[redacted]

A few highlights

- TAC/CAC is by far our largest cost item, $38B out of $67B total forecasted 2020 costs and expenses. Do we focus enough on seeking ways to reduce our TAC payments, particularly our search distribution TAC? This is super hard, and most ideas and attempts are likely to fail, but should we push the teams negotiating the deals (Partnerships and P&E) harder to explore alternatives and take more (but controlled)

[1] Source. 2020 is v6 Fcst

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risk, e.g., trying significantly different approaches with smaller partners? Are there ways we can shape our revenues that would have a positive effect here?

- YT only includes AVOD. It excludes, e.g., Music and Premium, which arguably should be looked at together with AVOD, as the Premium deals with the music industry are often justified based on the need to maintain the overall relationship.
- These tables, which we sometimes loosely refer to as P&Ls, are not a full reflection of the economics of the business, as there are significant interactions with other parts of Google (e.g., P&E), that are not captured.

Display P&L Overview

- The "Display" business is a set of products with distinctly different economics. The different components or ways to look at the business are:
  - Ad Serving Platforms: Campaign Manager, Google Ad Manager (fka DFP)
  - Network Buying Doors: DV360, GDA (App Promo and non-App Promo), Authorized Buyers
  - Network Inventories: AFC, AdMob, Ad Manager (fka AdX), 3rd Party Exchanges
- Between 2018 and 2019 we saw significant improvement in the operating income of the aggregate Display business, due to increased focus on net revenue (see **Exhibit 2**)

[redacted]

- [redacted]
  - [redacted] of every advertiser media dollar is paid to the publisher. Given the magnitude of TAC, Display P&L is highly sensitive to this margin; improving overall net revenue margin by 1ppt drives [redacted].

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[2] Source. 2020 is v6 Fcst

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- Excluding TAC, a large portion ([redacted]) of cost and expenses are fixed, and as a result, profitability trajectory is driven by net revenue growth. The largest non-TAC cost drivers:
  - GBO (incl gTech): [redacted] of total cost and [redacted] of net revenue
  - EngPM: [redacted] of total cost and [redacted] of net revenue
  - Machines: [redacted] of total cost and [redacted] of net revenue
- Profitability initiatives the DVAA teams have focused on:
  - Margin Tuning on GDA Remarketing spend on 3PE, AdMob
  - Partnering with GBO to streamline selling, improve serviceability
  - Factoring query value in machines serving SLA
  - Tightly managing resource asks by aggressively self-funding (e.g. moving HC from Web to Apps)
- Net revenue margin, including buy and sell side margins[4], varies greatly by inventory:
  - AFC Net Revenue Margin: [redacted]
  - AdMob Net Revenue Margin: [redacted]
  - AdX Net Revenue Margin: [redacted] average, ranges from [redacted]
  - 3PE Net Revenue Margin: 4-9% on DV3, 34% on GDA
- We look at the next level of granularity by buying door and inventory type in **Exhibit 3a** and **Exhibit 3b**.

Comment [1]: what is causing dv3 to be so margin negative?

[redacted]

[3] Source
[4] Buyside + Sellside Margin combined. Source: go/dva-waffle
[5] Source. 2020 is v5 Fcst
[6] Source. 2020 is v5 Fcst

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[redacted]

- Display Profit is driven by:
  - GDA:
    - Despite declining revenue growth rate (1% Y/Y[7] pre-COVID), GDA makes up [redacted] of Display P&L revenue and [redacted] of net revenue
    - GDA buys on high margin inventories; net revenue margin is [redacted]
    - As a mature, scaled product, large revenue base is supported by relatively low resourcing level; and universals drive scalable growth
  - App Promo:
    - Fast revenue growth with no low margin inventory outlets; App Promo (excl. O&O) net revenue margin is [redacted]
    - Fairly lean resourcing levels across all functions, though this has increased over last 2-3 years as Product + Sales focus has shifted to Apps
  - AdServing Platforms:
    - Small revenue base vs. media [redacted] but with stable revenue generation that mostly flows down to profit given a) no TAC and b) low resourcing levels
- Products which aren't contributing to Display P&L Profit:
  - DV360:
    - Large share of revenue flows to low margin inventory: [redacted] of revenue on 3PE ([redacted] net revenue margin), recent growth has been fueled by reservation deals ([redacted] net revenue margin)
    - High resource intensity of running and selling the business, across GBO (incl. Gtech) and engPM, with perennial questions about segmentation of smaller advertisers between DV360 and other buying doors
    - Path to profitability is unclear:
      - Peers (TTD) have a much better financial profile and are profitable, even without the benefit of sell side fees. Some of this discrepancy is likely explained by practices we cannot deploy, but delta is large enough to suggest there are execution opportunities, in both Ads and GBO
      - Team was focused on improving profitability in 2018-1H'19 and made some progress on: gTech serviceability, Net Revenue

[7] 2020 Plan (link)

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Margin (mix between 3PE and AdX). Since then, progress paused by lack of clarity on to what extent profitability is still a priority.

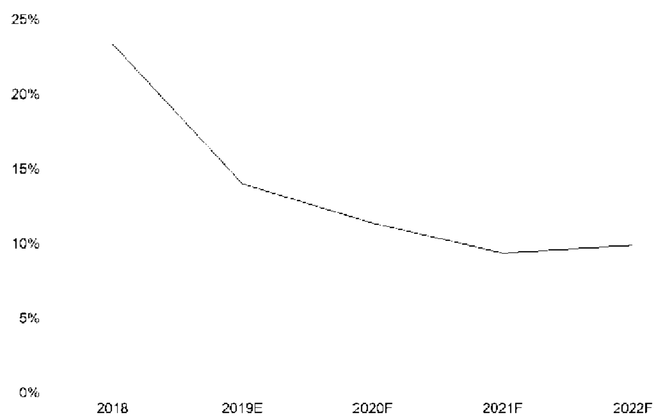
Comment [2]: I'll follow up on this. This is bad.

Comment [3]: _Marked as resolved_
let us know if you need more details. this must be a product and gbo initiative.

Comment [4]: _Re-opened_

- Instream Video[8]:
  - $1B gross revenue growing 30% Y/Y pre-COVID, [redacted] net revenue:
    - >50% of gross revenue is transacted via lower margin deals, and lower margin segment growing fastest
    - >50% of instream business bought by DV360, carrying the same high resource intensive costs to support

Display P&L Looking Forward, Questions to Address ahead of 2021 Planning



- Based on 2020 Plan, pre-COVID, momentum Display P&L revenue growth slows to <10% over next 3 years
  - As revenue growth decelerates it will become harder to maintain and grow the levels of profitability. It would require curtailing incremental investment in the business, which may be difficult given the competitive landscape (e.g., Amazon, TTD, Facebook and indirectly Apple), and likely growing regulatory burden.
  - While we could see significant growth rate volatility in the next few years due to COVID, our forecast for total revenues 3-years out will most certainly be significant below our pre-COVID forecast
  - No clear growth driver to accelerate business above momentum has emerged; and most current growth drivers have a lower net revenue margin
- Significant, course-altering, potential headwinds lie ahead for Display business:

[8] HC funded by YT; YT relies on Ad Manager video product for several features (Player for Publishers, Partner Sales, Pelican)
[9] Source 2020 RevTeam Plan Review

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- Privacy: a narrow, uncertain path to navigate, with much still to solve for. Given current options under consideration, even in the most optimistic case we are likely to lose 10% of forecasted momentum revenue $ by 2022. This does not take into account the impact of changes recently announced by Apple in WWDC20.
- Antitrust scrutiny

- Given current context, we need to re-align on how to define success
  - Which are the product lanes in Display where we should stay focused on driving profitability? What guidance should we give leads?
  - Where profitability is not a focus because of a strategic priority, what are our guardrails for financial loss and how do we ensure the non-financial benefits are yielding the right impact and outcomes?
  - Should we continue to operate in all these product lanes? What are the opportunities we should explicitly not pursue given insufficient return (financial or otherwise); are there areas where we should continue to invest in, but to a different degree than the current state?
  - What are the O&O dependencies on Display that rise above P&L consideration?

Comment [5]: Just re-reading this excellent doc.

Do we have a good sense of the secondary benefit (that we actually believe) from having DV3 in selling our O&O media? I have heard handwavey claims in the past but not sure if any of these should be trusted.

Comment [6]: This is a really important question. We don't currently, but it's the area of analysis we're most focused on for DV3 right now, and a topic that's coming up with increasing frequently in our conversations with PM and GPL.

A couple things we're looking at:

1) DV3 incrementality to YT. There's a study from a few years back that showed positive incrementality, but the findings never gained broad alignment; we're taking a fresh look at this question.
2) DV3 on YT profitability. We do believe this product pairing drives some profit, but: not clear whether DV3 is driving the profit to YT or vice versa; we also need to dig deeper into
3) Spend fungibility between buying doors

We should have some findings to share back over the next ~2 months.

In the meantime, let us (Carlos, Gabe, or me) know if helpful for Finance to plug in to any upcoming reviews where this is coming up - good for us to all ground in the same fact/assumption base.